

## ABSTRACT:

The invention relates to charge pump device and a display driver with a charge pump device. Further it relates to a display module with a display driver using a charge pump device and a telecom terminal having such a display module. To provide a device which needs a charge pump for generating a higher voltage as the supply voltage a charge pump

5 device is proposed containing at least two stages (S), whereby a stage (S) comprises a switch (SW<sub>n</sub>) and a charge device (CS<sub>n</sub>) which are arranged to generate a voltage higher than the supply voltage (V<sub>dd</sub>), whereby the stages (S) are arranged in serie and a required multiplication factor (MF) of the charge pump (CP) is adjustable by activating/deactivating a definable number of stages (S), whereby the switches (SW<sub>n</sub>) of each stage (S<sub>n</sub>) are arranged 10 in the same way. Thereby it will achieved a freely programmable multiplication factor of the supply voltage and in the same time having switches in the charge pump which are optimized in the power consumption by programming a multiplication factor smaller than the maximum multiplication factor.

15 Fig. 1